

Top down survey & bottom up survey for RV Refueling Systems

Top down survey data:

Top down survey was conducted among six RV manufacturers, three RV refueling tank manufacturers, and an independent survey institute in the period of 2008-2009. ARB staff also interviewed the RV dealers in the CA RV shows 2008 and 2009 to optimize the data.

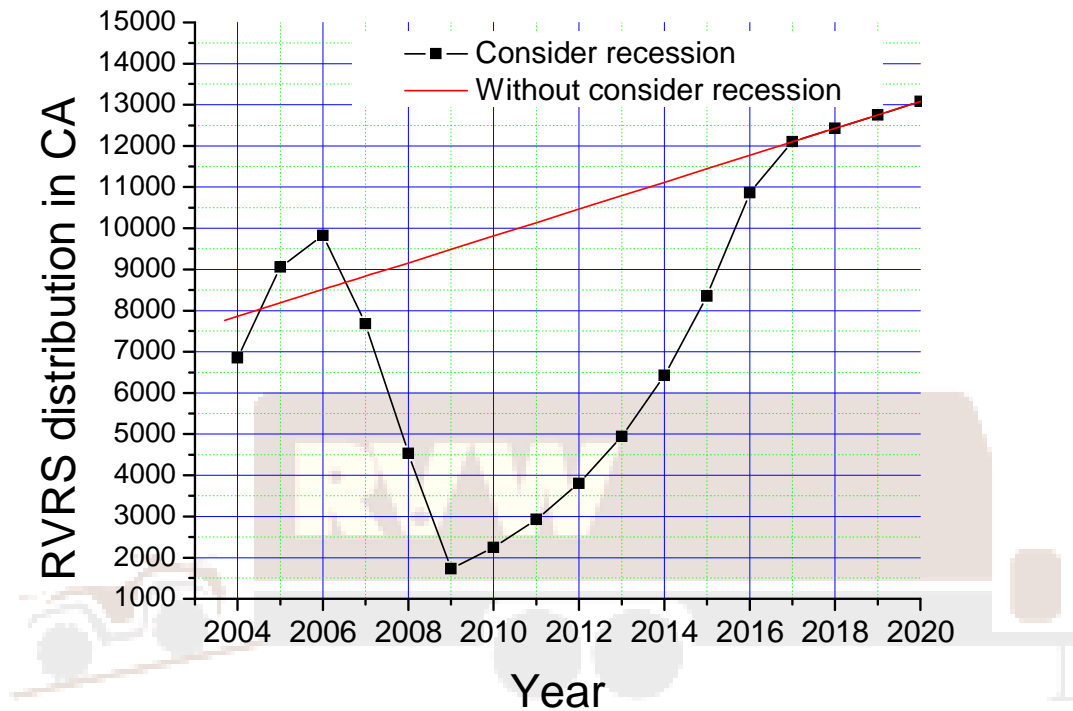


Figure1. Recreational Vehicle Refueling Systems (RVRS) distributed/sold in California 2004-2009 and predictable sales trend 2010-2020. The sales trend under the influence of recession is shown in black. The sales trend without considering the recession is shown in red.

Year	Units
2004	6,846
2005	9,054
2006	9,822
2007	7,679
2008	4,530
2009 (Jan-Oct)	1,731
Total (2004-2009)	39,662

Table1. RVRS historical sales in each year from 2004-2009

Top down survey results summary

RVRS distribution in CA 2004-2010: 40,000

RV refueling systems having stand alone fuel tanks in CA: 11,500
(10,000 metal +1,500 plastic)

RV refueling systems having dual purpose fuel tanks in CA: 28,500
(22,800 metal + 5,700 plastic)

RVRS distribution in CA up to 2020 (consider recession):129,577

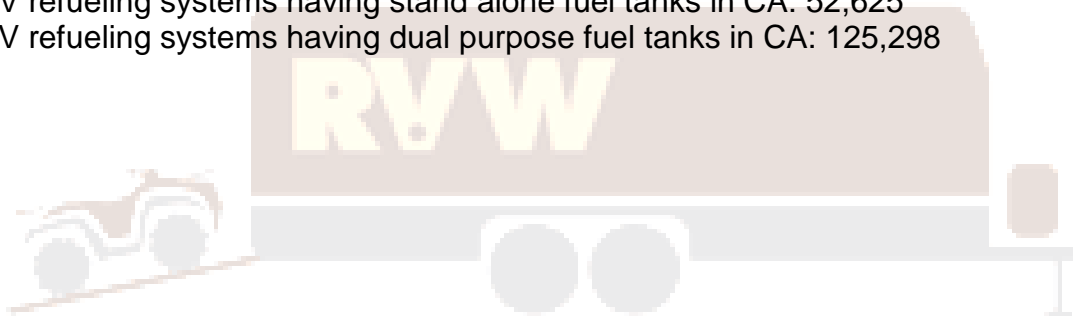
RV refueling systems having stand alone fuel tanks in CA: 38,325

RV refueling systems having dual purpose fuel tanks in CA: 91,251

RVRS distribution in CA up to 2020 (without consider recession):177,924

RV refueling systems having stand alone fuel tanks in CA: 52,625

RV refueling systems having dual purpose fuel tanks in CA: 125,298



Bottom up survey:

Bottom up survey was conducted among CA residents by institute for Social Research at the California State University, Sacramento in 2007.

- RV trailers registered in CA till 2008: 457,133 (with DMV code T-CCH)
T: trailer coach or house trailer, body type code (BTC).¹
CCH: body type model (BTM)
- According to participants, 98 percent store gasoline in the tank.
- Forty percent of registered RV owners stated the tank was made of metal, one in five respondents said the tank was made of plastic, and over one-third were unsure what materials were used.²
- Two-thirds of participants used the tank to refuel motor vehicles, mainly off highway recreation vehicles (73 percent). Three percent stated they refueled marine vessels, and 23 percent refueled either a truck or the RV. In contrast 84 percent of respondents claimed they did not refuel equipment with the dual purpose tank. Of the six registered owners that did refuel equipment, two-thirds refueled the generator.²
- Refueling instances ranged from one to 24 times a year with one respondent indicating the tank has not been used.
- The majority of tanks were stored outside mainly under a canopy, or with no shade structure.
- Of the 42 percent of respondents who claimed the tank was stored with fuel in it, nearly half did not know the fuel level when stored.²
- According to participants, the age ranges for the tanks are from brand new to 10 years old with one registered owner unsure of the age of the tank.
- None of the respondents had replaced the tank or have noticed any cracks or leaks. Nearly three-quarters (73 percent) of the tanks were top-filled, as well as 20 percent claiming they did not know if tank was top-filled or bottom filled.²

¹ DMV DATA BASE

² ANALYSIS OF THE 2007 CALIFORNIA REGISTERED VEHICLE OWNERS WITH A FITTED PORTABLE REFUELING TANK SURVEY